

**Edwardsville High School**

*“Excellence in Education”*

6161 Center Grove Road

Edwardsville, Illinois 62025

May 22, 2015

Re: AP Calculus AB Summer Homework Assignment

To 2015-2016 AP Calculus AB Student:

Welcome to AP Calculus AB! This memo provides instructions for your summer homework assignment. If you choose to complete this homework before school starts in August, you will increase your opportunity for success in the course and will reduce your homework stress during the first week back at school.

The attached handout reviews a substantial portion of your past mathematics course work.[[1]](#footnote-1) I encourage you to work a portion of the problems every week during the summer rather than finishing them all in the same day or week! Completion of this assignment is part of your first week’s homework grade, due on the first day of class in August, 2015.

The following resources may be useful for reviewing concepts that you have forgotten or for help in solving these homework problems!

Review of all Math prerequisite to calculus (you will be given an algebra skills test on your first day of class that covers the basic material and a test near the end of week 1 that covers most of the concepts in this online review):

<http://tutorial.math.lamar.edu/Extras/AlgebraTrigReview/AlgebraTrigIntro.aspx>

Knowledge base that is also very useful for functional computations and graphing (click on Examples, then Mathematics): <http://www.wolframalpha.com/>

Review of Algebra with answers to exercises:

<http://www.stewartcalculus.com/data/CALCULUS%206E%20Early%20Transcendentals/upfiles/ess-reviewofalgebra.pdf>

I look forward to helping you increase your mathematics understanding next school year. Have a great summer!

Sincerely,

J. Meinzen & M. Easley

AP Calculus AB Math Teachers

Entering AP Calculus AB: Page 12

The following problems are intended to get you familiar with online resources that will be useful to you throughout the year. Please show your work on separate paper[[2]](#footnote-2).

1. Problems 143-146 in Stewart’s algebra review (<http://www.stewartcalculus.com/data/CALCULUS%206E%20Early%20Transcendentals/upfiles/ess-reviewofalgebra.pdf>)

2. At the WolframAlpha command line, enter: plot exp(sinx) and plot sinx

Either print out OR sketch the observed graph for -6 < x < 6 and explain why exp(sinx) is a periodic function (<http://www.wolframalpha.com/>).

3. Read the first half of Paul’s online notes about the Indefinite Integral (just through Example 2 is enough) and write a function of your own and find its antiderivative (<http://tutorial.math.lamar.edu/Classes/CalcI/IndefiniteIntegrals.aspx>).

4. At the WolframAlpha command line, enter: integral(x^2)

Write your answer and then find the derivative of your answer. Explain what the value of the constant might be.

5. At the top of Paul’s Online Notes is an “Extra/Reviews” Menu – go to the Common Math errors” and read the first 4 documents (not the Calculus one). For each of the four errors documents (General, Algebra, Trig, Common) write one sentence that convinces me you studied it (you might answer the question, “I was reminded…” or “I hadn’t seen this …” etc.

1. This letter and the assignment are on our Calculus AB web page (http://www.ecusd7.org/ehs/ehsstaff/jmeinzen/)! [↑](#footnote-ref-1)
2. This letter and the assignment are on the Calculus AB web page (http://www.ecusd7.org/ehs/ehsstaff/jmeinzen/)! [↑](#footnote-ref-2)